

Nerve Signaling Authentic Task

Objectives & Tasks: Numbers represent point values.

1. **Describe** the basic events of nervous system information processing.
 - Write a **description** of the sensory input, integration & motor output events. (8)
2. **Describe** the chemical & electrical mechanisms that transmit information.
 - Make a **list** of chemical/electrical changes occurring from sensory neurons to interneurons, to the effector.
 - Should include all events of stimulus perception (5), generation of action potential (all steps)(10), propagation(5), synapse transmission(5), & specifics of your reaction to the stimulus (10). Numbers represent point values.
3. **Analyze** the connections of this topic with Evolution, Energy Requirements, & DNA.
 - Reflect & **write a connection** on how this information transfer mechanism is related to evolution (5), energy requirements (5) & DNA (5).
4. **Compare & Contrast** nerve signaling with our previous topic on signal transduction pathways.
 - Write at least **2 similarities** between the 2 mechanisms. (6)
 - Write at least **2 differences** between the 2 mechanisms.(6)
5. **Evaluate** possible results of disruptions to this pathway.
 - Choose a point in the pathway that may be disrupted by a disorder. **Research & describe** the point of disruption at the chemical level. **Describe** any treatments and how they alleviate the disorder. (20)